The Definition of Faculty Must Evolve: A Call to Action

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Abstract

As academic medical centers and academic health centers continue to adapt to the changing landscape of medicine in the United States, the definition of what it means to be faculty must evolve as well. Both institutional economic priorities and the need to recalibrate educational programs to address current and future societal and patient needs have brought new complexity to faculty identity, faculty value, and the educational mission.

The Council of Faculty and Academic Societies, 1 of 3 membership councils of the Association of American Medical Colleges (AAMC), established working groups in 2014 to provide a strong voice for academic faculty within the AAMC governance and leadership structures. The Faculty Identity and Value Working Group was charged with identifying the attributes and qualities of future academic medicine faculty in light of the transformational changes occurring at many medical schools and teaching hospitals. The working group developed a framework that could be applied throughout the United States by AAMC member schools to define and value teaching activities. This report adds to the work of others by offering a contemporary construct that is flexible and easily adaptable to enable fair and transparent implementation of an education value system; it is especially relevant for systems in which mergers and acquisitions lead to a large number of clinicians. An example of such an implementation at a large and growing academic medical center is provided.

The ability to identify and quantify educational effort by faculty could be transformative by highlighting the fundamental importance of faculty to the development of the future medical workforce.

The rapid market consolidation of health care delivery systems over the past decade has led to the expansion of many academic medical centers (AMCs) and academic health centers (AHCs) through acquisitions, mergers, and partnerships.[1] Market consolidation has been driven by numerous factors, including health care reform, downward pressure on clinical revenue, increased competition for relatively tight federal research funds, shifts in research foci and sources of funding, a refined understanding of adult learning, regulatory requirements, and institutional priorities regarding productivity.[2] A variety of corporate and affiliation models have evolved to amass multiple hospitals, hospital-based practices, regional medical campuses, and community offices, thus disrupting the 1997 definition from the Association of American Medical Colleges (AAMC) of an AMC as essentially a dyad composed of a medical school (and its faculty) and an integrated "university" hospital (typically with common ownership).[3] The resulting variety of faculty models, employed physicians, and independent physician practices associated with schools of medicine and other health professional schools has created ambiguity in the role of faculty, requiring a more carefully considered definition of what, exactly, is medical school faculty.

The diminished opportunity for cross-subsidization of the teaching mission is making it more challenging for faculty to engage in teaching, mentoring, and faculty development. Historically, AMCs and AHCs have used clinical revenue to subsidize the teaching and research missions that rarely cover their costs. As financial margins have tightened, there is now significant scrutiny of how faculty spend their time and an increased focus on engaging in revenue-generating activities. Although there is funding for medical education—through Medicare, Medicaid, and the U.S. Department of Veterans Affairs; tuition dollars from undergraduates; and for public institutions, through state legislatures—the funding does not cover the total cost of education.[4] The economics of medicine is changing the perceptions of faculty roles and priorities, contributing to burnout, and potentially marginalizing medical education.[5] Further, the formation of AMC- and AHC-associated clinically integrated networks that encompass nonteaching clinicians can create tension between medical faculty who have teaching responsibilities and those who do not. Whether one is predominantly a clinician or a scientist, there is a trend toward centralized funds flow models that increasingly rely on individual faculty accountability for productivity.[6] For many clinicians, productivity is measured in relative value units (RVUs). Initially intended as a metric of billing, RVUs have increasingly been used as a surrogate benchmark for comparing clinical services across physicians from similar specialties and disciplines.[7] Because RVUs are measurable, targets can be set for clinicians, driving productivity at the expense of other mission areas, such as education.

In 2000, Nutter and colleagues published a report of the Medical Education Panel, 1 of 3 expert panel reports prepared in conjunction with the Mission-Based Management Program of the

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AAMC. Given that clinical RVUs are measurable and serve as a surrogate for clinical productivity, the development of education RVUs (eRVUs) seemed plausible; thus, the report presented a framework that deans and faculty of an individual school could use to develop a relative value system for measuring faculty effort and contributions to education. The eRVUs credited to faculty for teaching were a function of the assigned weight of the activity and adjustments for individual or group activities and the quality and number of units of the activity performed.[8] Subsequently, several groups implemented relative or academic value units to education designed to quantitate teaching in a way to better define, reward, and support teaching activities within given departments.[9–14]

In addition to evolving definitions and roles of faculty, medical education is undergoing enormous and costly changes. Medical education has moved from the apprentice model during the Flexner era to standard-based curricula regulated by the Liaison Committee on Medical Education and the Accreditation Council for Graduate Medical Education. Accreditation standards have further moved from the process of education to competency-based education and training.[15] Medical education now embraces learner-centered and adult learning perspectives that challenge the time-efficient models of lectures and large-group teaching. Curriculum delivery, curriculum evaluation, and learner evaluation in the context of these new educational models require more faculty and a greater level of faculty expertise in the service of small-group facilitation, problem-based learning, and flipped classrooms. Faculty must be proficient in the delivery of knowledge and adaptive skills, curriculum design and delivery, and trainee feedback and evaluation. Medical education now requires a robust infrastructure of educational experts in addition to those who supervise students and trainees in clinical and research settings. Typically, faculty have not been formally taught in any comprehensive manner how to teach, evaluate learners, or design or evaluate curricula, so faculty development has become a critically important element to implementing these essentials. However, the incremental time needed to develop such expertise is often not available in the context of clinical or scientific productivity demands. This imperative was recognized as early as the 1988 World Conference on Medical Education, where the fifth recommendation was "train teachers as educators, not content experts alone, and reward excellence in this field as fully as excellence in biomedical research or clinical practice."[16]

As leaders of AMCs and AHCs continue to adapt to the changing national landscape of medicine in the United States, the definition of what it means to be faculty must evolve as well. Both institutional economic priorities and the need to recalibrate educational programs to ensure that they address current and future societal and patient needs have brought new complexity to faculty identity, faculty value, and the educational mission. The future of medicine depends on getting this right, because without medical educators, there are no future physicians or scientists to advance patient care. Meeting this challenge requires attracting, retaining, and rewarding individual faculty, but first we need to be able to clearly define what makes a faculty member a faculty member.

Approach

The Council of Faculty and Academic Societies (CFAS), 1 of 3 AAMC membership councils, is composed of more than 360 faculty representatives appointed by AAMC member medical schools and academic societies. CFAS established several working groups in 2014 to provide a strong voice for academic faculty within the AAMC governance and leadership structures. The Faculty Identity and Value Working Group (FIVWG) was charged with developing CFAS programs and initiatives based on the attributes and qualities of future academic medicine faculty members in light of the transformational changes occurring at many medical schools and teaching hospitals.

The FIVWG, representing more than 14 medical schools, chose to focus on developing a broad framework for the definition and value of teaching activities that could be applied throughout the United States by AAMC member schools. The goal of the FIVWG was to extend previous work by creating a single, contemporary value system for activities that spanned the teaching continuum from basic science to clinical skills. The system would be valuable in several ways: for individual faculty as they create teaching dossiers for reappointment, promotion, and justification for effort spent in defined teaching activities; for committees that evaluate teaching dossiers because a consistent value would be associated with defined teaching activities at a given school; for deans' and faculty affairs offices as they consider the criteria for faculty appointments (especially as mergers and acquisitions lead to large numbers of clinicians at a given site) or selection into medical education academies; and for AMCs and AHCs interested in creating eRVU systems or funds flow models for education. Such a contemporary framework allows institutions to make a series of decisions that enable fair and transparent implementation of an education value system for any type of faculty member while recognizing that there are many tasks fundamental to being a faculty member that are intangible, important, and not otherwise counted.

Over a 2-year period from 2014 to 2016, the FIVWG reviewed the literature and created a broad list of teaching activities, including those performed by both basic scientists and clinicians. In trying to capture the depth and breadth of current teaching activities, the group spent significant time discussing other important types of interactions with trainees, such as supervising scholarship and longitudinal mentorship. Given the transformation that has occurred in medical education, the FIVWG wanted to recognize faculty contributions to more robust assessment methods and participation in competency, assessment, and thesis committees. As the FIVWG created the categories and definitions of teaching activities (Table 1), it kept track of the foundational questions to debate and answer (Table 2). The FIVWG then created a value framework for all identified teaching activities that was vetted at annual CFAS and AAMC meeting workshops. (Table 3, columns 1 and 2) The FIVWG did not explicitly address the quality of teaching, given its focus on the definition and value of teaching, but the group recognized that teaching quality also plays an important role in processes such as promotion.

Table 1

Categories and Definitions of Teaching Activities for Credit, Generated by the Faculty Identity and Value Working Group, Council of Faculty and Academic Societies, Association of American Medical Colleges

Category of teaching for credit	Definition
Lecture	Presentation given in person or electronically (e.g., online class, podcast, webinar, school of medicine-sponsored continuing medical education) that is intended to teach and is delivered to an audience of any size
Facilitated learning activity	Individual or group activity conducted in person, electronically, or through simulation in which the teacher engages the student(s) through discussion, cases, questions, etc. to enhance learning (e.g., small groups, directed journal clubs)
Clinical teaching	Supervision and teaching of one or more trainees in clinical settings, including outpatient practices, inpatient services, procedure units, diagnostic sessions such as sign out, procedural instruction
Supervised scholarship	Supervision of a trainee's scholarly project that leads to a product such as a manuscript, abstract, poster, platform presentation, lecture, workshop, curriculum, and/or grant proposal to an external funding agency
Mentorship	Longitudinal mentoring relationships intended to facilitate trainee career development (e.g., supervising a student's scholarly pursuit or a trainee's quality improvement project)
Lab rotations and prethesis research	Specific application to biomedical graduate students who rotate through different labs for a predetermined period of weeks, where postbaccalaureate students and undergraduate students are mentored on research projects for defined durations
Education service	Recognition of educational committees that require substantial investment of time
Education leadership	Recognition of administrative contributions related to education in graduate degree programs, medical school, and residency and fellowship programs; for contributions of course and program directors above and beyond their course and program administrative responsibilities

Experience at One AMC

Penn Medicine, owned by the University of Pennsylvania, is a large academic health system that operates 5 hospitals and hundreds of subspecialty and primary care practice sites. Over the past 15 years, the size of the full-time faculty has doubled to more than 2,600. The major driver of that expansion has been clinical needs. The teaching mission, which includes more than 1,000 residents and fellows, 600 medical students, 100 master's students, and 750 graduate students, has grown by approximately 15% during the same time period. This expansion brought faculty appointments into sharp focus because a main criterion for such appointments is expected teaching responsibilities set forth by the University of Pennsylvania, and the supply of potential teachers has outstripped the demand.

All faculty in the School of Medicine are appointed, reappointed, and promoted by the University of Pennsylvania. There are 4 full-time faculty tracks: tenure (clinical and nonclinical), clinician–educator, academic clinician, and research. All full-time tracks except the research track require 100 hours per year of teaching. Reappointment occurs every 3 years for assistant professors in the clinical tenure, clinician–educator, and academic clinician tracks, and every 5 years for associate and professor academic clinicians. For the tenure and research tracks, reappointment for nonclinical assistant professors occurs at year 5. Non-full-time faculty positions also exist, including clinical appointments designed to recognize those who teach at least 50 hours per year. The clinical appointment is typically used at community practices and outside the main hospital.

In 2016, the vice dean for academic affairs, who also chaired the FIVWG, assembled a Teaching Definition and Value Committee at the Perelman School of Medicine at the University of Pennsylvania to test the framework presented here. Using Tables 1 and 2, the committee met over 18 months. Two things were realized early on. First, many types of teaching were not being captured, and teaching that was captured was differentially valued across departments. Importantly, a significant amount of basic science teaching was not being captured. Second, this process brought together basic scientists and clinicians in a way that generated mutual respect for each group's commitment to teaching. Once the list of teaching activities was generated (Table 3, column 2), the committee turned to the development of credits for each teaching type. The credit for each teaching activity was done by committee consensus with the expectation that all departments would use the same credits. Significant effort was spent trying to assign credits that were roughly equivalent in terms of time. Table 3 (column 3) lists the values determined by the committee.

This teaching definition and value rubric was implemented across the Perelman School of Medicine as of July 1, 2017. The committee set a minimum requirement of 100 credits per year for reappointment and promotion for full-time faculty. Individuals with between 50 and 100 credits receive clinical appointments to recognize their value and importance to the teaching mission but must continue to meet the annual requirements to maintain their appointments. Those with fewer than 50 credits are eligible for adjunct appointments, with the same requirement to meet the annual minimums. A teaching workbook was created with all the formulas that faculty can use to track their teaching, and a centralized data repository was developed. Faculty submit their workbooks as part of the reappointment and promotions process. The Teaching Definition and Value Committee meets annually to review feedback and make any revisions necessary. Departmental leadership across the institution is now starting to use the system to allocate teaching effort more transparently, especially in nonclinical settings. The credit framework, workbook tracking plan, and monitoring arrangements have been working very well since implementation. Further, the provost's office at the University of Pennsylvania

Table 2

Fundamental Questions Used by the Teaching Definition and Value Committee, Perelman School of Medicine, University of Pennsylvania[a]

Question	Faculty Identity and Value Working Group recommendation
What kinds of activities will receive teaching credit?	Lectures, facilitated learning activities, clinical, assessment activities, supervised scholarship, mentorship, lab rotations and prethesis research, education service, and leadership will receive teaching credit.
Does time spent preparing to teach count?	Yes, preparation time for lectures and facilitated learning activities should be included.
For teaching which audiences or groups should faculty receive credit?	Credit will be given for teaching trainees, advanced practice providers, other licensed health professionals, and physician and faculty peers.
How are trainees defined?	Trainees include undergraduate and postbaccalaureate students, other health professions students, medical students, residents and fellows, postdoctoral (research) trainees, graduate students in master's or doctoral programs, and advanced practice trainees.
Will credit be given for teaching that occurs outside the school, such as in the community, affiliated facilities, and secondary education?	Teaching outside of the institution or school could receive credit if an evaluation of the teaching is conducted.
How will teaching activities be tracked? By the faculty member? By the department?	A simple Excel workbook can be created to track teaching activity and credits. Alternatively, a database can be used to allow central collection of data.
What is the minimum number of credits required to obtain or maintain a faculty appointment?	Set the annual minimum requirements for teaching for each faculty track.
Is there a specific percentage of teaching that needs to be done at the institution to qualify for a faculty appointment?	To incent faculty to teach at their own institutions or affiliates rather than externally, at least 50% of the minimum teaching effort should occur locally.
Who is responsible for setting the value of teaching activities?	The credits assigned to specific teaching activities are defined by the institution or school rather than by individual teachers, course directors, or departments.
Will credit for teaching be a function of the number of trainees, the level of trainees, or both?	The number or level of trainees should not alter the credit for an activity given that the time necessary to prepare is typically independent of the number of trainees being taught.
What is the definition of longitudinal mentoring?	• Longitudinal mentoring involves a long-term commitment to the trainee that includes career development, capstone projects, thesis committee chairmanship, qualifying exam ("preliminary exam") membership, etc. • The mentoring must occur over multiple interactions over the course of a year and specifically excludes intermittent advising. • Mentoring performed in the context of a supported role in medical education (i.e., course director or program director) is assumed to be part of the responsibilities of such a role and is excluded.
What assessment activities will be included?	Included activities are those in which learning is evaluated by exams involving problem solving (i.e., not multiple choice) or that take the form of research proposals, and for which grading is performed by the lecturer.
What is the definition of supervised scholarship?	• Supervised scholarship applies to faculty who participate heavily in the design, conduct, analysis, and drafting of the scholarly products of trainees. • Each type of product can only be claimed once. • Credit can be claimed for the year of submission or publication. • Trainee must be first or second author or principal investigator if a grant proposal.
How is the clinical teaching formula defined?	The formula is based on the total number of half-day sessions in the ambulatory, diagnostic, and procedural areas or total number of days for operating room and inpatient service time.
What activities or committees qualify for educational service credit?	Credits should be considered for educational committees that require substantial investment of time, such as medical and graduate school admissions, residency and fellowship selection, curriculum, program evaluation, and clinical competency.
Which, if any, educational leadership roles should receive credit?	Credits should be considered for educational leadership roles to recognize contributions above and beyond course and program administrative responsibilities.

[a]The questions were developed by the Faculty Identity and Value Working Group, Council of Faculty and Academic Societies, Association of American Medical Colleges, to help institutions customize the categories of teaching activities presented in Table 1.

supports the approach and accounting for teaching.

There are limitations to using a teaching definition and value system. Teaching activities are self-reported. Given the volume of reappointments and promotions, validation of the self-reported effort is rare and occurs only if something about the workbook does not make sense. A disconnect can also occur between the effort reported by faculty and the support they might receive for teaching. Further, such a system might discourage faculty from engaging in teaching activities beyond the minimum of 100 credits per year because motivation to teach may fade once the minimum is met. However, there are certainly faculty who teach more than 100 credits. An advantage of this system is that such faculty can share their teaching workbooks with their chiefs and chairs in hopes of receiving additional

Table 3

Operationalization by the Perelman School of Medicine, University of Pennsylvania, of the Teaching Definition and Value Rubric Recommended by the Faculty Identity and Value Working Group (FIVWG), Council of Faculty and Academic Societies, Association of American Medical Colleges

Teaching activity	FIVWG teaching credit recommendations	Perelman School of Medicine credits
Lecture and facilitated learning activities (FLA)	• Each hour of new lecture/FLA or content that has undergone a > 50% revision • Each hour of old lecture/FLA or delivering someone else's content	• 4 per each hour of lecture/FLA; new, revised, and old lectures or FLAs are equivalent
Assessment activities	• Each hour of activity	• 2 per hour
Clinical teaching	• Half-day clinic, procedure session, or diagnostic session or weekend inpatient service day spent with trainees • Inpatient service weekday, operating room day, or full shift in the emergency department • 24-hour period spent in-house supervising trainees	• 1 for half-day clinic, procedure session, or diagnostic session or weekend inpatient service day spent with trainees • 2 for inpatient service weekday, operating room day, or full shift in the emergency department • 4 for 24-hour period spent in-house supervising trainees
Supervised scholarship	• Accepted or submitted abstracts, posters, oral presentations • Accepted or submitted manuscripts • Submitted or funded grant proposals • Annual service as thesis and postdoctoral trainee advisor	• 5 for accepted or submitted abstracts, posters, oral presentations • 10 for submitted manuscripts • 10 for submitted or funded grant proposals • 50 annual for serving as thesis and postdoctoral trainee advisor
Mentoring	• Each longitudinal mentoring relationship	• 5 for each longitudinal relationship with greater than 8 hours of meeting time per year
Lab rotations and prethesis research	• Graduate students on lab rotations • Undergraduates performing research projects • Postbaccalaureate students for 1 year	• 25 per graduate student on a lab rotation • 25 per undergraduate performing research projects • 50 per postbaccalaureate student per year
Education leadership	• Graduate group • Undergraduate medical education (i.e., course directors, etc.) • Graduate medical education (i.e., program directors, associate program directors, etc.) • Master's degree programs	• Yearlong courses or programs (e.g., program director, clerkship director, graduate group chair) ○ Directors: 50 ○ Codirectors: 50 ○ Associate directors: 25 • Nonyearlong courses ○ Directors: 25 ○ Codirectors: 12 ○ Associate directors: 12 • Clinical electives: 25
Education service	• Curriculum committees • Program admissions committees • Residency and fellowship selection committees • Program evaluation and clinical competency committees	• 5 per activity per year: ○ Curriculum committees ○ School of medicine graduate program admissions committees ○ Residency and fellowship selection committees ○ Program-level evaluation, graduate group reviews, and clinical competency committees

salary support commensurate with their teaching effort. Consideration is being given to linking educational support to actual teaching effort.

Conclusions

The primary goal of the FIVWG was to create a broad national framework for defining and valuing teaching activities at AAMC member schools, as illustrated by the experience at Penn Medicine. The framework generated is flexible and easily adaptable, such that schools could expand and contract the approach according to educational need. For institutions that use a funds flow methodology, the adoption of this framework can increase the transparency of funds flow for education. As AHCs and AMCs continue to expand through mergers and acquisitions, this framework can define the educational effort necessary for a faculty appointment. It can also serve as the basis for the development of educator tracks, the formation of teaching academies that recognize those with advanced teaching expertise and responsibilities, or as a metric to guide teaching awards and incentives based on teaching quality, quantity, or both. The ability to identify and quantify educational effort by faculty could be transformative by highlighting the fundamental importance of faculty to the development of the future medical workforce.

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